Amendments to the Claims

Please amend the claims as follows:

[C1] (amended) A process for preparing syngas, comprising:
partially oxidizing a first hydrocarbon portion with oxygen in a partial oxidation reactor to produce a first reactor effluent;
cooling the first reactor effluent to a temperature from 650° ~~and~~ to 1000°C;
supplying the cooled first reactor effluent to a reforming exchanger;
passing a second hydrocarbon portion with steam through a catalyst zone in the reforming exchanger to form a second reactor effluent;
discharging the second reactor effluent from the catalyst zone to form an admixture with the first reactor effluent;
passing the admixture across the catalyst zone in indirect heat exchange therewith to cool the admixture and heat the catalyst zone;
collecting the cooled admixture from the reforming exchanger.

[C2] (amended) The process of claim 1, wherein the first reactor effluent cooling comprises direct heat exchange with water ~~is~~ introduced into the first reactor effluent as a quench fluid.

[C3] (amended) The process of claim 2, wherein the first reactor effluent cooling further comprises indirect heat exchange.

[C4] (amended) The process of claim 3, wherein the first reactor effluent cooling by indirect heat exchange comprises heating the second hydrocarbon portion in a cross exchange.

[C5] (amended) The process of claim 1, wherein the first reactor effluent cooling comprises indirect heat exchange.

[C6] (amended) The process of claim 5, wherein the first reactor effluent cooling by indirect heat exchange comprises heating the second hydrocarbon portion in a cross exchanger.

[C7] (original) The process of claim 1, wherein the catalyst zone comprises catalyst tubes.

[C8] (original) The process of claim 5, wherein the second hydrocarbon portion is supplied to a tube side of the reforming exchanger and passed through the catalyst tubes.

[C9] (original) The process of claim 5, wherein the cooled first reactor effluent is supplied to a shell side inlet of the reforming exchanger.

[C10] (original) The process of claim 7, wherein the shell side inlet is adjacent an outlet end of the catalyst tubes.

[C11] (original) The process of claim 1 wherein the first and second hydrocarbon portions are supplied in a weight ratio of from 40:60 to 95:5.

[C12] (original) The process of claim 1, wherein the first and second hydrocarbon portions are supplied in a weight ratio of from 40:60 to 60:40.

[C13] (original) The process of claim 1, wherein the first and second hydrocarbon portions are supplied in a weight ratio of from 95:5 to 80:20.

[C14] (amended) An apparatus for producing syngas, comprising:

partial oxidation reactor means for partially oxidizing a first hydrocarbon portion with oxygen to produce a first reactor effluent;

means for cooling the first reactor effluent to a temperature from 650° to 1000°C;

means for supplying the cooled first reactor effluent to a reforming exchanger;

means for passing a second hydrocarbon portion with steam through a catalyst zone in the reforming exchanger to form a second reactor effluent;

means for discharging the second reactor effluent from the catalyst zone to form an admixture with the first reactor effluent;

means for passing the admixture across the catalyst zone in indirect heat exchange therewith to cool the admixture and heat the catalyst zone;

means for collecting the cooled admixture from the reforming exchanger.

[C15] (original) A method for retrofitting a syngas process comprising a partial oxidation reaction step for converting a first hydrocarbon stream to a first reactor effluent, a heat recovery step for cooling the first reactor effluent and producing steam with the recovered heat, and a downstream processing step for receiving the cooled reactor effluent and producing a product syngas of enhanced hydrogen content, comprising:

a step for cooling the first reactor effluent to a temperature from 650° to 1000°C.

a step for diverting the cooled first reactor effluent to a reforming exchanger;

a step for passing a second hydrocarbon portion with steam through a catalyst zone in the reforming exchanger to form a second reactor effluent;

a step for discharging the second reactor effluent from the catalyst zone to form an admixture with the first reactor effluent;

a step for passing the admixture across the catalyst zone in indirect heat exchange therewith to cool the admixture and heat the catalyst zone;

a step for supplying the cooled admixture from the reforming exchanger to the heat recovery step.

[C16] (original) The method of claim 15, wherein water is introduced into the first reactor effluent as a quench fluid.

[C17] (amended) The method of claim 15 ~~11~~, wherein the first reactor effluent is cooled by indirect heat exchange.

[C18] (original) The method of claim 17, wherein the second hydrocarbon portion is heated by indirect heat exchange before being supplied to the reforming exchanger.

[C19] (original) The method of claim 17 wherein water is introduced into the first reactor effluent.

[C20] (amended) The method of claim 15 ~~11~~, wherein the catalyst zone further comprises catalyst tubes.

[C21] (original) The method of claim 18, wherein the second hydrocarbon portion is introduced to a tube side inlet of the reforming exchanger.